

FIG. 1

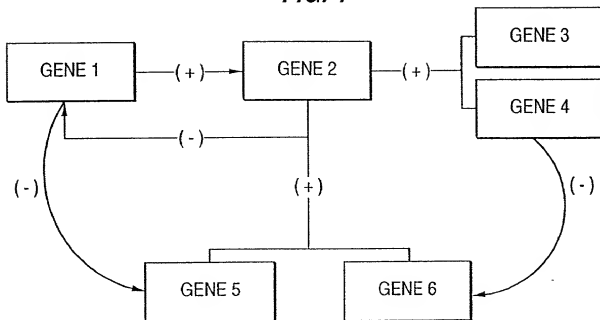


FIG. 2

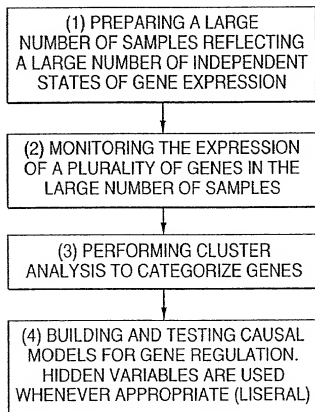
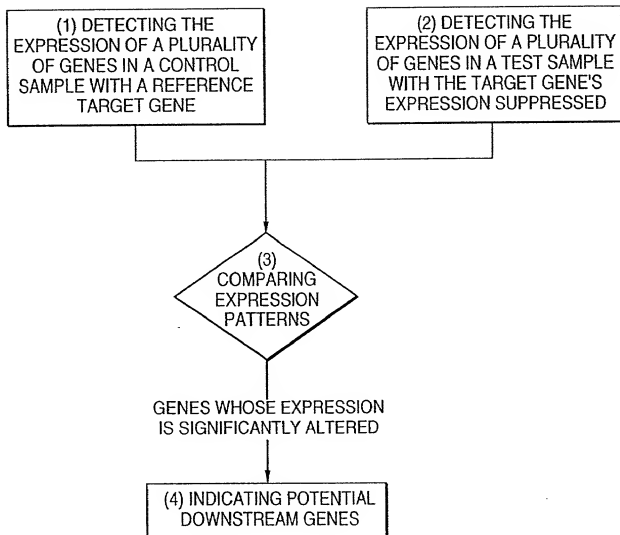
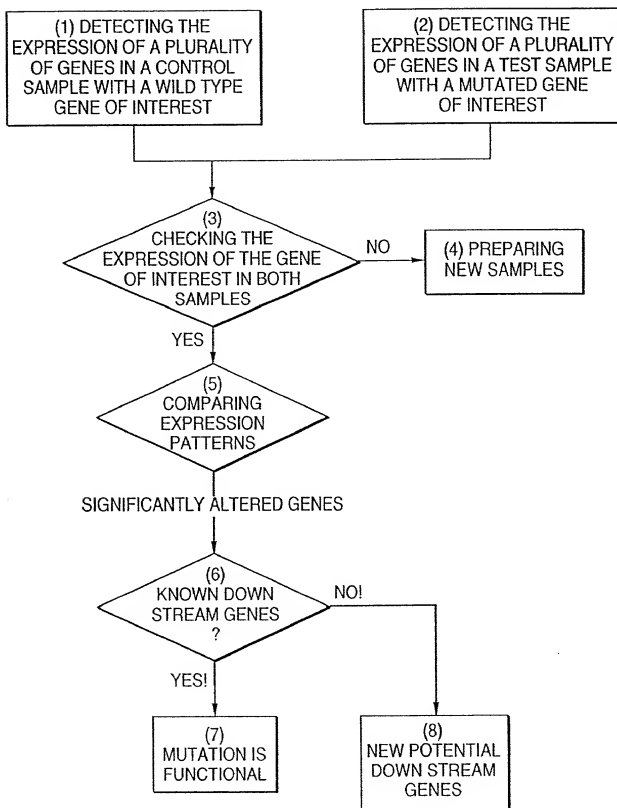


FIG. 3



09836278-041801

FIG. 4



000366278_041804

FIG. 5

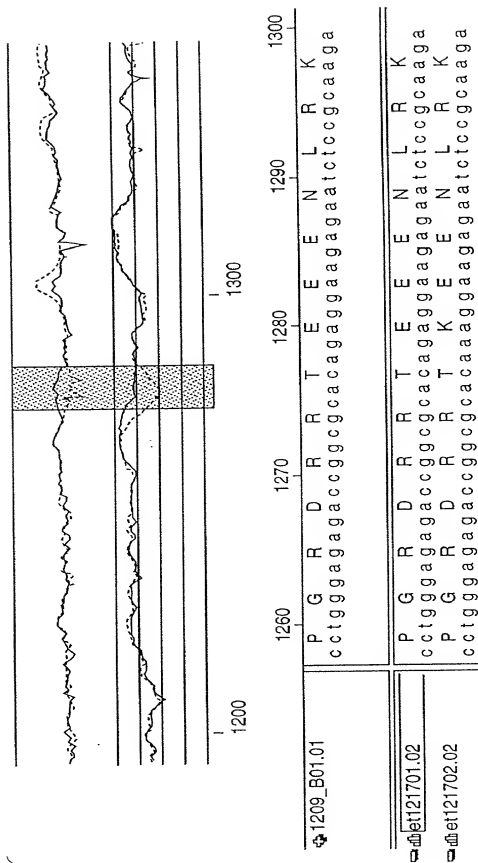


FIG. 6

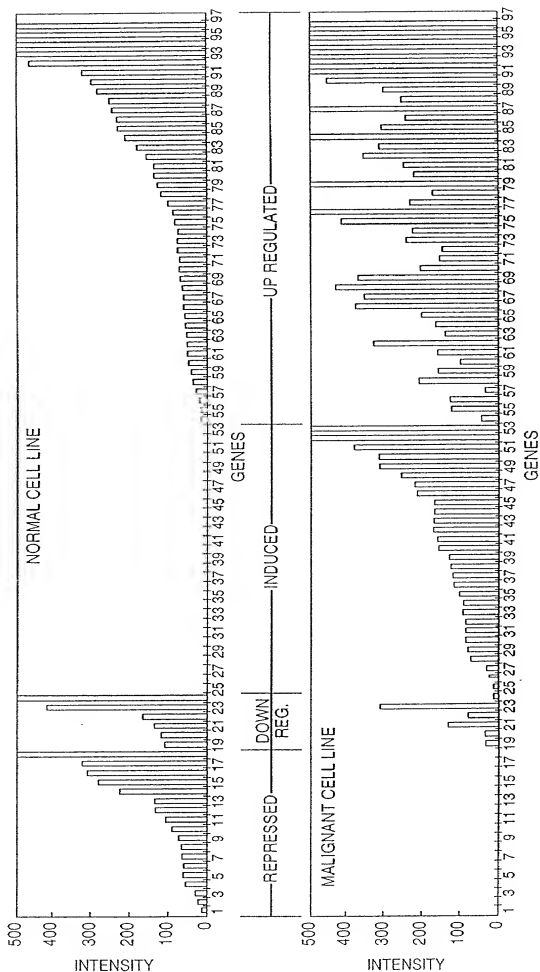


FIG. 7

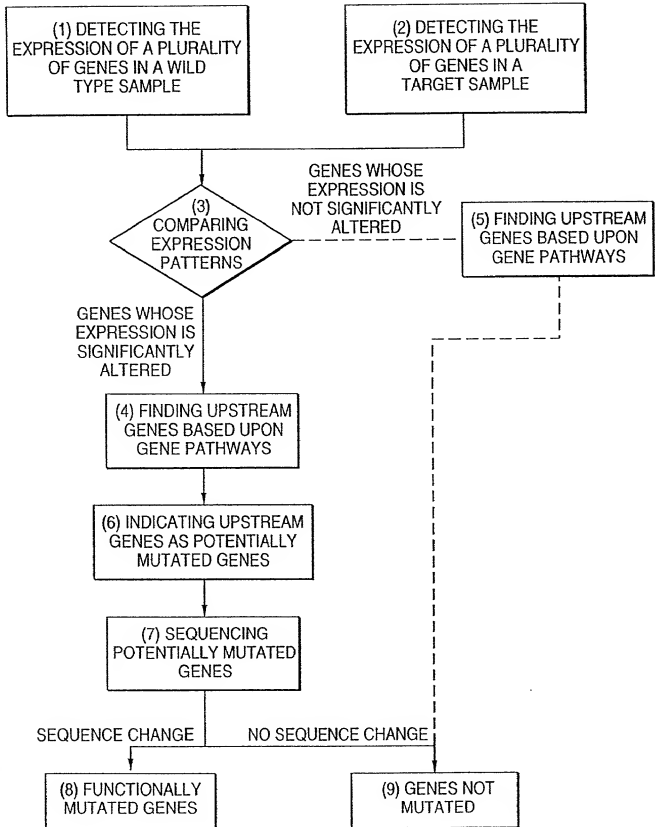


FIG. 8A

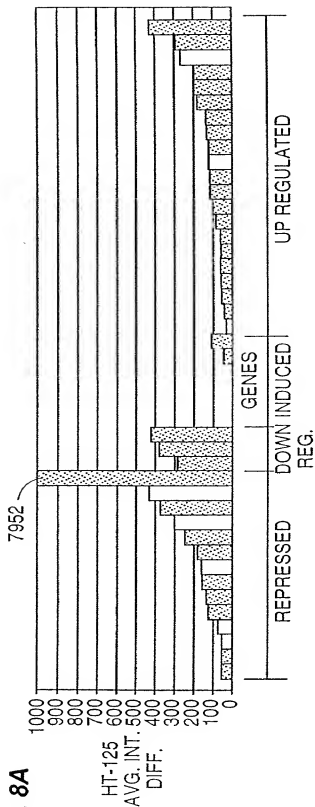


FIG. 8B

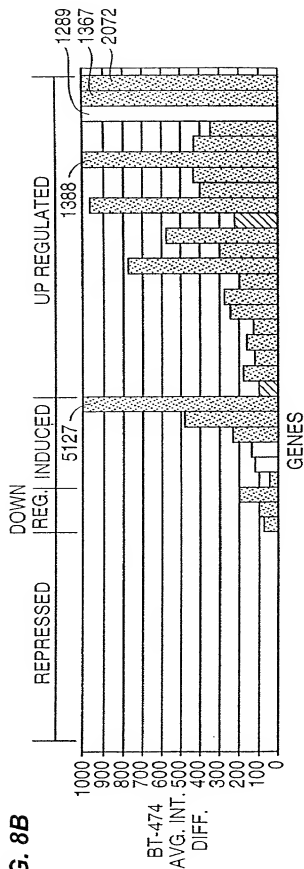


FIG. 9A

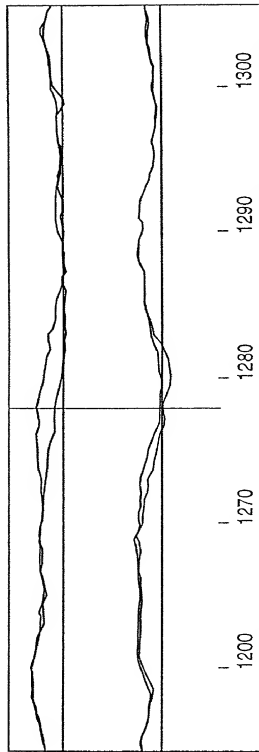


FIG. 9B

p53 ref.seq	<p>P G R D R R T E E E N L R K</p> <p>cctggagagacccggcgacagaggaagaatctccgaaga</p>
wild-type.seq	<p>P G R D R R T E E E N L R K</p> <p>cctggagagacccggcgacagaggaagaatctccgaaga</p>
BT-474.seq	<p>P G R D R R T E E E N L R K</p> <p>cctggagagacccggcgacacaaaggaagaatctccgaaga</p>

FIG. 10A**Table 3.**

Genes transcriptionally induced in BT-474 vs HT-125

<u>Accession</u>	<u>Nominal copy number: 500~1,000 copie/cell</u>	<u>Functional category</u>
X00474	PS2 protein precursor	other
M1 1730	Her2/neu tyrosine kinase receptor	signal transduction
R1 0066	cDNA clone 128808 similar to Prohibitin	other
<u>Nominal copy number: 100-500 copies/cell</u>		
J05068	Transcobalamin I	other
M22382	Mitochondrial matrix protein P1 precursor	mitochondrial
T54303	cDNA clone 69022 similar to Keratin, type II cytoskeletal 8	structural/cytoskeletal
L33930	CD24	signal transduction
T51499	cDNA clone 71494 similar to Succinate dehydrogenase	metabolic enz.
T70062	cDNA clone 80945 similar to NF45	transcription factor
X70940	Elongation factor 1 alpha-2	translational mach.
M88279	Human immunophilin	other
D45370	Adipose specific protein	other
H52207	cDNA clone 209710 similar to Matrix GLA-protein precursor	secc. gr. fact.
L08044	Intestinal trefoil factor	transcription factor
M31627	X Box binding protein-1	metabolic enz.
U37519	Aldehyde dehydrogenase	transcription factor
U39840	Hepatocyte nuclear factor-3 alpha	other
M26481	KS1/4 antigen	DNA replication
H09351	cDNA clone 46019 similar to MCM3 homolog	DNA replication
T51961	Proliferating cell nuclear antigen	other
T59162	cDNA clone 74635 similar to Selenium-binding protein	

FIG. 10B

Nominal copy number: 50-100 copies/cell		
T67986	cDNA clone 82030 similar to Clusterin precursor	cell ad./cell-cell comm.
U21931	Fructose-1,6-biphosphatase	metabolic enz.
Z13009	E-cadherin	cell ad./cell-cell comm.
M18216	Nonspecific crossreacting antigen	other
U31875	Hep27 protein	other
L02547	Cleavage stim.factor	translational mach.
R89566	cDNA clone 195338 similar to lamin B receptor	other
T98835	cDNA clone 122341 similar to 80.7 KD alpha trans-inducing protein	other
R00451	cDNA clone 123283 similar to Clathrin coat assembly protein AP47	other
M34309	Human epidermal growth factor receptor, HER3	signal transduction
X73424	Propionyl-CoA carboxylase beta chain	metabolic enz.
X89985	BCL7B	other
H00645	cDNA clone 149859 similar to Ribonuclease inhibitor	other
H41017	cDNA clone 192957 similar to Creatine kinase, ubiquitous mitochondrial precursor	mitochondrial
R85558	cDNA clone 180221 similar to Inorganic pyrophosphatase	metabolic enz.
Nominal copy number: 10-50 copies/cell		
H41006	cDNA clone 177323 similar to Quinol oxidase polypeptide I	other
X51801	OP-1, osteogenic protein	secr. gr. fact.
M69238	Aryl hydrocarbon receptor nuclear translocator	transcription factor
X69392	Ribosomal protein L26.	translational mach.

FIG. 10C

R68418	cDNA clone 166353 similar to Cleavage stimulation factor, 50 kD subunit	translational mach.
Y00815	Leukocyte antigen related protein	cell ad./cell-cell comm.
H41406	cDNA clone 192943 similar to mouse Gamma-adaptin	protein process.
X92814	HREV107-like protein.	other
X68194	h-Sp1	other
R42070	cDNA clone 30646 similar to Verprolin	structural/cytoskeletal
H19467	cDNA clone 172249 similar to Ankyrin R	other
R10820	cDNA clone 128901 similar to Tyrosine-protein kinase CSK	signal transduction
L29254	L-iditol-2 dehydrogenase gene	metabolic enz.
M34458	Lamin B1	other
R53942	cDNA clone 40025 similar to ADP-ATP carrier protein, heart/skeletal muscle isoform	other
T96666	cDNA clone 121357 similar to Cyclin-dependent kinase interactor 1	cell-cycle
R44863	cDNA clone 33477 similar to Phenylalkylamine binding protein	other
D43772	GRB-7	signal transduction
X67334	BM28	DNA replication
T78606	cDNA clone 113492 similar to Translational activator GCN1	translational mach.
D42047	KIAA0089 Human mRNA gene for Mouse glycerophosphate dehydrogenase-related	metabolic enz.
X36072	hGATA3	transcription factor
M34344	Platelet glycoprotein IIb	cell ad./cell-cell comm.
R46731	cDNA clone 36517 similar to Transcriptional regulatory protein RPD3	transcriptional mach.
U33819	Zinc-finger DNA binding protein	transcription factor
R23246	cDNA clone 131094 similar to Gollath protein	other
H64489	cDNA clone 238846 similar to Leukocyte antigen CD3	cell ad./cell-cell comm.
T47377	cDNA clone 571035 similar to S-100P protein	other

FIG. 10D

H05814	cDNA clone 44151 similar to Putative ATP-dependent RNA helicase	translational mach.
X03618	3-hydroxy-3-methylglutaryl coenzyme A synthase	metabolic enz.
U14550	Slaviltransferase STHM	metabolic enz.
R55185	cDNA clone 154654 similar to Galactoside 3(4)-L-fucosyltransferase	transcription factor
V00568	C-myc	other
L47738	Inducible protein	other
M20560	Lipocortin-III	metabolic enz.
T47964	cDNA clone 71549 similar to Purine nucleoside phosphorylase	transcription factor
T90192	cDNA clone 110564 similar to DNA-binding protein MEL-18	signal transduction
U20285	GPS1	other
M81637	Grancalcin	signal transduction
H19201	cDNA clone 508873 similar to Guanine nucleotide diss. stim.	transcription factor
X03635	Oestrogen receptor	structural/cytoskeletal
X52426	Cytokeratin 13	signal transduction
R37799	cDNA clone 270833 similar to Protein phosphatase PP2A	signal transduction
X03484	Raf oncogene	signal transduction
L11284	ERK activator kinase, MEK1	transcription factor
X70583	SOX-4	other
R72844	cDNA clone 156489 3' similar to Choline kinase	signal transduction
M97370	Adenosine receptor (A2)	cell ad./cell-cell comm.
X76180	Lung amiloride sensitive Na+ channel protein	cell ad./cell-cell comm.
R45583	cDNA clone 35271 similar to NG-CAM related cell adhesion molecule	transcription factor
M13665	C-myb	other
D26018	Human mRNA (KIAA0039) for ORF	other
H54752	cDNA clone 203275 similar to Activator 1 37 KD subunit	signal transduction
H04239	cDNA clone 151776 similar to Developmental protein seven in absentia	

FIG. 10E

D21852	Human mRNA (K1AA0029) for ORF	other
M57730	Immediate early response protein B61 precursor	secre. gr. fact.
M16768	Human T-cell receptor gamma chain VJCI-CH1/III region	other
X13956	12S RNA induced by poly(rI), poly(rC) and Newcastle disease virus	other
U07349	Human B lymphocyte serine/threonine protein kinase	signal transduction
D00726	Ferrochelatase	metabolic enz.
M54968	K-ras oncogene	signal transduction
D31661	ERK tyrosine kinase	signal transduction
U21108	Human dual specific protein phosphatase	signal transduction
X52228	Secreted epithelial tumour mucin antigen	signal transduction
X13425	Pancreatic carcinoma marker GA733-1	signal transduction
R52511	cDNA clone 39763 similar to Gamma-interferon-inducible protein IP-30 precursor	other
X83425	Lutheran blood group glycoprotein.	other
U13045	Human nuclear respiratory factor-2 subunit beta 1	cell ad./cell-cell comm.
M20132	Androgen receptor	transcription factor
L07615	Neuropeptide Y receptor Y1	transcription factor
M86689	Human kinase, TTK	signal transduction
R43936	cDNA clone 32374 similar to Serine/threonine-protein kinase STE20	signal transduction
X60787	Transcription factor ILF	signal transduction
X14570	Gal-beta(1-3/1-4)GlcNAc alpha-2,3-sialyltransferase	signal transduction
U90255	Phosphogluconate dehydrogenase	transcription factor
D11466	For Pig N-acetylglucosaminyl-phosphatidylinositol	metabolic enz.
M64347	Novel growth factor receptor	metabolic enz.
R43064	cDNA clone 32719 similar to E2 protein	other
M60724	p70 ribosomal S6 kinase alpha-1	signal transduction
U34074	A kinase anchor protein S-AKAP84	transcription/replication
H87205	cDNA clone 220505 similar to cell division protein kinase 5	translational mach.
X57348	cDNA clone 9112 similar to H.sapiens mRNA	mitochondrial
X07696	Keratin, type I cytoskeletal 15	cell-cycle
X13482	U2 small nuclear ribonucleoprotein A'	other
		structural/cytoskeletal
		translational mach.

FIG. 10F

	Nominal copy number: 1-10 copies/cell	
D63879	Human mRNA for ORF (KIAA0196)	other
M90656	Gamma-glutamylcysteine synthetase (GCS)	metabolic enz.
H13822	cDNA clone 148291 similar to Zinc finger autosomal protein	other
X83928	Transcription factor TFIIID subunit TAF128	transcriptional mach.
H52655	cDNA clone 235891 similar to DNA polymerase beta	DNA replication
R42095	Tyrosine kinase SEK receptor precursor	signal transduction
D13633	Human mRNA for ORF (KIAA008)	other
U13616	Human ankyrin G	other
M74558	SIL mRNA	other
X63468	Transcription factor TFII E alpha	transcriptional mach.
M30704	Amphiregulin	other
U11700	Copper transporting ATPase	metabolic enz.
H78807	cDNA clone 230127 similar to D-beta-hydroxybutyrate dehydrogenase precursor	metabolic enz.
M58411	p80-collin	translational mach.
U25975	Serine kinase hPAK65	signal transduction
R42898	cDNA clone 32410 similar to JNK activating kinase 1	signal transduction
J03258	Vitamin D3 receptor	signal transduction

FIG. 10G

Accession		Genes transcriptionally repressed in BT-474 vs HT-125		Functional category	
		Nominal copy number: 500-1,000 copies/cell			
H41129		cDNA clone 175539 similar to Galectin-1		cell ad./cell-cell comm.	
T51261		cDNA clone 70133 similar to GliA derived nexin precursor		protein process.	
		Nominal copy number: 100-500 copies/cell			
R91912		Placental calcium-binding protein		other	
M77349		Transforming growth factor-beta induced gene product		other	
M35878		Clone HL 1006d similar to IGFBP3		structural/cytoskeletal	
T92451		cDNA clone 118219 similar to Tropomyosin		structural/cytoskeletal	
M95787		Smooth muscle protein 22-alpha		ECM	
J03210		Collagenase type IV mRNA, 3' end.		cell ad./cell-cell comm.	
L16895		Human lysyl oxidase		other	
X57351		Interferon-inducible protein 1-8D		cell ad./cell-cell comm.	
T99774		cDNA clone 122884 similar to Follistatin precursor		ECM	
J03464		Clone pHcol2A1 similar to Procollagen alpha 2(I) chain precursor		protein process.	
T61333		cDNA clone 78034 similar to Metalloproteinase inhibitor 3 precursor		secre. gr. fact.	
X78947		Connective tissue growth factor		other	
R49855		cDNA clone 152637 similar to Coagulation factor V precursor		cell ad./cell-cell comm.	
T54767		cDNA clone 73802 similar to Sparc precursor		cell ad./cell-cell comm.	
L01131		Human decorin		protein process.	
L16510		Cathepsin B		protein process.	
H87343		cDNA clone 252394 similar to Protein-lysine 6-oxidase precursor		structural/cytoskeletal	
M69066		Moesin		other	
X91911		RTVP-1		protein process.	
T95046		cDNA clone 120085 similar to Protease do precursor		structural/cytoskeletal	
X15882		Collagen VI alpha-2 C-terminal globular domain.		other	
M69054		IGFBP6		metabolic enz.	
X55740		Placental cDNA coding for 5' nucleotidase		structural/cytoskeletal	
H80342		cDNA clone 241122 similar to Tubulin beta chain		DNA replication	
U21090		DNA polymerase delta		signal transduction	
Z18951		Caveolin-1			

FIG. 10H

	Nominal copy number: 50-100 copies/cell	
U39050	Human mitogen-responsive phosphoprotein	other
H62466	cDNA clone 209654 similar to Collagen alpha 3(VI) chain	structural/cytoskeletal
X14787	Thrombospondin	cell ad./cell-cell comm.
H45474	cDNA clone 183508 similar to Peripheral myelin protein 22	signal transduction
H29761	cDNA clone 186308 similar to Annexin I	cell ad./cell-cell comm.
M11718	Alpha-2 type V collagen	structural/cytoskeletal
X12369	Topomyosin alpha chain, smooth muscle	signal transduction
T54317	cDNA clone 69040 similar to RAS-related protein	protein process.
U20280	Cathepsin X	signal transduction
H23235	cDNA clone 52096 similar to APDGRF precursor	cell ad./cell-cell comm.
R67072	cDNA clone 140763 similar to GAP Junction alpha-1 protein	protein process.
R72104	cDNA clone 155771 similar to Bone morphogenetic protein 1 precursor	ECM
U21128	Lumican	

FIG. 10I

M23419	Initiation factor 5A	translational mach.
L34056	Cadherin-11	signal transduction
M64110	Caldesmon	structural/cytoskeletal
X72012	Endoglin	signal transduction
R70383	cDNA clone 155241 similar to Vitellogenin II precursor	other
T63425	cDNA clone 82963 similar to Alpha-2 macroglobulin precursor	protein process.
H02540	cDNA clone 151270 similar to Cathepsin L precursor	protein process.
X05232	Stromelysin	ECM
T54278	cDNA clone 69199 similar to Tissue inhibitor of metalloproteinases II precursor	protein process.
M24486	Prolyl 4-hydroxylase alpha subunit	protein process.
H80975	cDNA clone 240954 similar to Plasma protease C1 inhibitor precursor	protein process.
H06706	cDNA clone 44616 similar to RAS-related protein ORAB-1	signal transduction
M33210	Colony stimulating factor 1 receptor	signal transduction
T96364	cDNA clone 121066 similar to M-phase inducer phosphatase 3	metabolic enz.

FIG. 10J

Nominal copy number: 10-50 copies/cell	
J02814	Chondroitin sulfate proteoglycan core protein
D14874	Adrenomedullin
L35594	Autotaxin
R23249	cDNA clone 131100 similar to Preprotein translocase secy subunit
L13923	Fibrillin
T91563	cDNA clone 118372 similar to CD44 antigen, epithelial form precursor
J05017	Alucose reductase
M55210	(LAMB 2) gene Laminin B2 chain
M13755	Interferon-induced 17 KD protein
U32114	Caveolin-2
X17097	PSG9
X52679	Spingomyelin phosphodiesterase
Z48481	Membrane-type matrix metalloproteinase 1
U24389	Lysyl oxidase-like protein
M85289	Heparan sulfate proteoglycan
D28992	Placental protein 5
Y00711	L-lactate dehydrogenase H chain
R50499	Fibrinogen beta chain precursor
U09278	Fibroblast activation protein
H15811	cDNA clone 159533 similar to Platelet membrane glycoprotein IIb precursor
X82494	Fibulin-2
H57325	cDNA clone 190993 similar to Interferon-activatable protein 204
J02685	Plasminogen activator inhibitor-2
U03106	Wild-type p53 activated fragment-1, p21WAF1/CIP1
L13665	Osteoblast specific factor 2
T55741	cDNA clone 73645 similar to Myosin light chain kinase
U18467	Pregnancy-specific beta 1-glycoprotein 7
X06700	Pro-alpha1 (III) collagen
H66627	cDNA clone 231424 similar to Glutathione S-transferase P
T44199	cDNA clone 62328 similar to Laminin gamma-1 chain precursor
T59895	cDNA clone 76280 similar to Ubiquitin carboxy-terminal hydrolase isozyme L1
T68426	CD81 antigen
X13810	OTF-2
T50086	cDNA clone 70213 similar to Alpha-1-antitrypsinase F precursor
	cell ad./cell-cell comm.
	other
	cell ad./cell-cell comm.
	other
	ECM
	signal transduction
	other
	ECM
	other
	signal transduction
	other
	protein process.
	protein process.
	cell ad./cell-cell comm.
	cell ad./cell-cell comm.
	other
	other
	cell ad./cell-cell comm.
	signal transduction
	cell ad./cell-cell comm.
	ECM
	other
	protein process
	cell-cycle
	cell ad./cell-cell comm.
	cell ad./cell-cell comm.
	other
	ECM
	other
	ECM
	other
	cell ad./cell-cell comm.
	transcription factor.
	protein process.

FIG. 10K

D28137	Human mRNA for BST-2	cell ad./cell-cell comm.
Z37976	Latent TGF-beta binding protein	other
X02492	Interferon-induced protein 6-16 precursor	other
T66960	cDNA clone 66508 3' similar to Nuclear factor 1 clone PNF1/X	other
H86938	Keratinocyte growth factor precursor	secre. gr. fact.
M29150	Interleukin 6	secre. gr. fact.
X05231	Collagenase	protein process.
X68148	p66shc	signal transduction
D31762	KIAA0057 for CRF	cell-cycle
T61090	cDNA clone 83635 similar to Endoglin precursor	signal transduction
T53889	cDNA clone 78017 similar to Complement C1r component precursor	other
X58288	hR-PTP gene for protein tyrosine phosphatase	signal transduction
T51913	cDNA clone 72466 similar to Alpha crystallin B chain	other
X17042	Hematopoietic proteoglycan core protein	cell ad./cell-cell comm.
M55621	N-acetylglucosaminyltransferase I	protein process.
H85111	cDNA clone 220183 similar to EBNA-2 nuclear protein	transcription factor
X63613	Pentaxin	other
M24594	Interferon-induced 56 KD protein	other
R36467	cDNA clone 136821 similar to Transforming growth factor beta 1 precursor	secre. gr. fact.
M87503	Transcriptional regulator ISGF3 gamma subunit	transcription factor
X13097	Tissue type plasminogen activator	cell ad./cell-cell comm.
X60201	Brain-derived neurotrophic factor	other
M63509	Human glutathione transferase M2	other
M92642	Alpha-1 type XVI collagen	ECM
M80469	MHC class I HLA-J	other

FIG. 10L

T60855	cDNA clone 76721 similar to Calcineurin B subunit isoform 1	signal transduction
X16707	Fra-1	transcription factor
H54425	cDNA 203126 similar to Metallothionein-II	other
L04733	Kinesin light chain	structural/cytoskeletal
R46493	cDNA clone 36200 similar to Tissue factor precursor	ECM
M29396	Interleukin-7 receptor alpha chain precursor	signal transduction
T97948	cDNA clone 121916 similar to Caponin H2, smooth muscle	structural/cytoskeletal
R43953	cDNA clone 33191 similar to Opioid binding protein	cell ad./cell-cell comm.
R16859	cDNA clone 129622 similar to Tissue factor pathway inhibitor	cell ad./cell-cell comm.
U37019	Smooth muscle cell caponin	structural/cytoskeletal
M96322	Gravin	cell ad./cell-cell comm.
T78624	cDNA clone 113518 similar to Carbonyl reductase	other
M60974	GADD45	cell-cycle
X60708	pCHDP7	protein process.
M62424	Thrombin receptor precursor	signal transduction
R94513	cDNA clone 197667 similar to STAT2	signal transduction
V00523	HLA-DR alpha	other
H65605	cDNA clone 209780 similar to Prothrombin precursor	signal transduction
X76488	Lysosomal acid lipase	protein process.
R12676	cDNA clone 123303 similar to Complement factor H-like protein 1 precursor	other
X05985	Heme oxygenase	metabolic enz.
R60908	cDNA clone 42188 similar to protein-tyrosine kinase	signal transduction
U25779	Human chromosome 17q21 mRNA clone 6942	other
X12496	Erythrocyte membrane sialoglycoprotein beta	other
T71207	cDNA clone 110162 similar to RAS-related C3 Botulinum toxin substrate 2	signal transduction

FIG. 10M

R52961	cDNA clone 40303 similar to Shc transforming protein 46.8 KD and 51.7 KD precursor	signal transduction
M97676	Homeobox protein	transcription factor
R95874	cDNA clone 199264 similar to LTR5 Retrovirus-related ENV polyprotein	other
T86469	cDNA 114641 similar to Collagen alpha 3(VI) chain	ECM
R48243	cDNA clone 153769 similar to PAS-related protein RHA1	signal transduction
U19969	Two-handed zinc finger protein ZEB	transcription factor
Nominal copy number: 1-10 copies/cell		
R99935	cDNA clone 201757 similar to DNA-directed RNA pol I largest subunit	transcription mach.
T64142	cDNA clone 80145 similar to Proteolipid protein PPA1	protein process.
H74007	cDNA clone 232346 similar to Serine/threonine-protein kinase SGK	signal transduction
H47650	PTS system, sucrose-spec. IIABO component	other
J04080	Complement component C1r	other
D90226	OSF-1	secre. gr. fact.
X03348	Human mRNA for beta-glucocorticoid receptor	signal transduction
R32804	cDNA clone 135145 similar to Glucose transporter type 3	other
M60618	Nuclear autoantigen SP-100	other
L13463	Human helix-loop-helix basic phosphoprotein	other
M26683	Human interferon gamma treatment inducible mRNA.	other
M63838	Interferon-gamma induced protein	other
X73608	Testican	cell ad./cell-cell comm.
M88338	Serum protein MSE55	other
T52698	cDNA clone 67233 similar to Protein-tyrosine phosphatase 1B	protein process.
U16307	Glioma pathogenesis-related protein	other
R35976	cDNA clone 137079 similar to CD30 ligand	signal transduction
X18665	HOX2H	transcription factor
R42244	cDNA clone 30543 similar to Antigen peptide transporter 1	protein process
U19718	Human microfibril-associated glycoprotein	ECM
T85165	cDNA clone 111045 similar to SRC substrate P80/85 proteins	signal transduction
R45687	Cyclin G	cell-cycle
L22473	Bax	cell-cycle

Message quantities are expressed as nominal copy number per cell relative to hybridization intensities of known copy number spiked controls.

Abbreviations: secre. gr. fact., secreted growth factor; ad., adhesion; comm., communication; mach., machinery; enz., enzyme; process., processing; ECM, extracellular matrix.